

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Robert PLOURDE, Jr., *et al.*

Appl. No.: 10/576,859

Filed: April 19, 2006

For: NON-NUCLEOTIDE COMPOSITIONS
AND METHOD FOR TREATING PAIN

Attorney Docket Number:
03678.0207.PCUS02

Information Disclosure Statement

Mail Stop: PCT
Attn: DO/EO/US
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior

art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is further understood that the Examiner will consider information that had been cited by or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120. 1138 OG 37, 38 (May 19, 1992).

Applicants have checked the appropriate boxes below.

- 1. This Information Disclosure Statement is being filed;
 - ☐ a. Within three months of the U.S. filing date of a national application other than a continued prosecution application under §1.53(d);
 - ☐ b. Within three months of the date of entry of the national stage as set forth in §1.491 in an international application;
 - c. Before the mailing date of a first Office Action on the merits;
 - ☐ d. Before the mailing of a first Office Action after filing of a request for continued examination under § 1.115.

No statement under 37 C.F.R. § 1.97(e) or fee is required.

or;

- ☐ 2. This Information Disclosure Statement is being filed after the period specified in paragraph 1(a)-1(d) above, but before the mailing date of a Final Rejection or Notice of Allowance, or action that otherwise closes prosecution in the application, and
 - ☐ a. I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1), or
 - ☐ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making

reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2), or

- ☐ c. Attached is our Check No. ____ in the amount of \$ ____ in payment of the fee under 37 C.F.R. § 1.17(p).
- ☐ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but on or before payment of the Issue Fee. Attached is our Check No. ____ in the amount of \$ ____ in payment of the fee under 37 C.F.R. § 1.17(i), and
 - ☐ a. I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1), or
 - ☐ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ 4. Relevance of the non-English language document(s) is discussed in the present specification.
- ☐ 5. The document(s) was/were cited in a corresponding foreign application. An English language version of the foreign search report is attached for the Examiner's information.
- ☐ 6. A concise explanation of the relevance of the non-English language document(s) appears below:

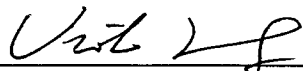
- ☐ 7. The Examiner's attention is directed to co-pending U.S. Patent Application No. _____, filed _____, which is directed to related technical subject matter. The identification of this U.S. Patent Application is not to be construed as a waiver of secrecy as to that application now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application and the art cited therein during examination.
- ☐ 8. Copies of all the documents, listed in 1449 Form were cited by or submitted to the Office in Application No. _____, filed _____, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 08-3038 referencing docket number 03678.0207.PCUS02.

Respectfully submitted,

Date: July 28, 2006



Viola T. Kung (Reg. No. 41,131)

HOWREY, LLP
2941 Fairview Park Drive, Box 7
Falls Church, VA 22042
Telephone: (650) 798-3570
Facsimile: (650) 798-3600

LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary) PTO FORM 1449	ATTY. DOCKET NO.	APPLICATION NO.
	03678.0207.PCUS02	10/576,859
	APPLICANT	
	Plourde <i>et al.</i>	
	FILING DATE	GROUP
	April 19, 2006	*

U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1.	4,794,174	12-27-1988	Secrist	536	26	
	2.	5,747,496	05-05-1998	Cox <i>et al.</i>	514	258	
	3.						
	4.						

FOREIGN PATENT DOCUMENTS								
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	5.	WO 00/04021	01/27/00	PCT	C07D	487/04		
	6.	WO 01/36438	05/25/01	PCT	C07H	19/04		
	7.	WO 01/40243	06/07/01	PCT	C07H	19/00		
	8.	WO 01/40246	06/07/01	PCT	C07H	19/16		
	9.	WO 01/94368	12/13/01	PCT	C07H	19/167		
	10.	WO 02/096428	12/05/02	PCT	A61K	31/519		
	11.							

OTHER REFERENCES		
(Including Author, Title, Date, Pertinent Pages, Etc.)		
12.	Baraldi, et al. , "Novel N ⁶ -(Substituted-phenylcarbamoyl)adenosine-5'-uronamides as Potent Agonists for A ₃ Adenosine Receptors," <i>Journal of Medicinal Chemistry</i> 39(3): 802-806 (1996)	
13.	Brown, et al. , "Matrix Metalloproteinase Inhibitors Containing a (Carboxyalkyl)amino Zinc Ligand: Modification of the P1 and P2' Residues," <i>J. Med. Chem.</i> 37(5): 674-688 (1994)	
14.	Camaioni, et al. , "Adenosine Receptor Agonists: Synthesis and Biological Evaluation of the Diastereoisomers of 2-(3-Hydroxy-3-phenyl-1-propyn-1-yl)NECA," <i>Bioorganic & Medicinal Chemistry</i> 5(12): 2267-2275 (1997)	
15.	Chizh and Illes , "P2X Receptors and Nociception," <i>Pharmacol. Rev.</i> 53:4, pp 553-568, 2000	
16.	Collier, et al. , "The Abdominal Constriction Response and Its Suppression by Analgesic Drugs in the Mouse," <i>B.r.J. Pharmacol. Chemother.</i> 32: 295-310, 1968	
17.	Cristalli, et al. , "2-Aralkynyl and 2-Heteroalkynyl Derivatvise of Adenosine-5'-N-ethyluronamide as Selective A _{2a} Adenosine Receptor Agonists," <i>Journal of Medicinal Chemistry</i> 38(9): 1462-1472 (1995)	
18.	Garcia-Echeverria, C. , "A base labile handle for solid phase organic chemistry," <i>Tetrahedron Lett.</i> ,	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary) PTO FORM 1449	ATTY. DOCKET NO. 03678.0207.PCUS02	APPLICATION NO. 10/576,859
	APPLICANT Plourde et al.	
	FILING DATE April 19, 2006	GROUP *

		38: 8933-8937 (1997)
19.		Jacobson, et al. , "Structure-Activity Relationships of 9-Alkyladenine and Ribose-Modified Adenosine Derivatives at Rat A ₃ Adenosine Receptors," <i>Journal of Medicinal Chemistry</i> 38(10): 1720-1735 (1995)
20.		Jarvis and Kowaluk , "Pharmacological Characterization of P2X ₃ Homomeric and Meteromeric Channels in Nociceptive Signaling and Behavior," <i>Drug Development Res.</i> , 52:220-231, 2001
21.		Lee, et al. , "N-Alkoxysulfamide, N-Hydroxysulfamide, and Sulfamate Analogues of Methionyl and Isoleucyl Adenylates as Inhibitors of Methionyl-tRNA and Isoleucyl-tRNA Synthetases," <i>Bioorganic & Medicinal Chemistry Letters</i> 13(6): 1087-1092 (2003)
22.		Lyga and Secrist III , "Synthesis of Chain-Extended and C-6' Functionalized Precursors of the Nucleoside Antibiotic Sinefungin," <i>Journal of Organic Chemistry</i> 48(12): 1982-1988 (1983)
23.		Mitsunobu, O. , "The Use of Diethyl Azodicarboxylate and Triphenylphosphine in Synthesis and Transformation of Natural Products," <i>Synthesis</i> 1-28 (1981)
24.		Santosh and Balasubramanian , "A Facile and Stereoselective Synthesis of Arylethers of Vicinal Bromohydrins by Mitsunobu Reaction," <i>Synthetic Communications</i> , 24(8): 1049-1062 (1994)
25.		Secrist III and Talekar , "5'-C-Chain-extended Adenosine Derivatives Related to Sinefungin, Synthesis and Biological Activity," <i>Nucleosides & Nucleotides</i> 9(4): 619-627 (1990)
26.		
27.		
28.		
29.		
30.		

/Patrick Lewis/ (06/05/2008)

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.L./ (06/05/2008)